We Claim:

1. A setpoint correction method for an electrically controlled slave axis which, in accordance with a predefined functional relationship follows a guide movement of a higher-order guide axis comprising increasing a position measured value of the guide axis for driving the slave axis by a position correction value which is determined proportionally to the guide axis's speed, said speed being assumed to be substantially constant during a data propagation time of the position measured value of the guide axis.

2. A setpoint correction method for an electrically regulated slave axis which, in accordance with a predefined functional relationship follows a guide movement of a higher-order guide axis comprising increasing a position measured value of the guide axis for driving the slave axis by a position correction value which is determined proportionally to the guide axis's speed, said speed being assumed to be substantially constant during a data propagation time of the position measured value of the guide axis and a delay of a position control system of the slave axis.

3. The setpoint correction method according to claim 1 or 2, wherein the position correction value is determined so as to compensate for a lag error of the slave axis.

4. The setpoint correction method according to claim 1, further comprising connecting a rotary encoder to the guide axis supplying a guide axis angle and increasing said guide axis angle by a correction angle which is proportional to the guide axis's angular velocity and weighted with the data propagation time of the position measured value of the guide axis said correction angle being determined as follows: $\varphi_{corr} = \omega_L * T_T$, wherein φ_{corr} is the position correction value, namely a correction angle, ω_L is the speed of the guide axis, namely an angular velocity and T_T is the data propagation time.

5. The setpoint correction method according to claim 2, further comprising connecting a rotary encoder to the guide axis supplying a guide axis angle and increasing said guide axis angle by a correction angles which is proportional to the angular velocity of the guide axis and weighted with the data propagation time of the position measured value of the guide axis and a delay of the position control system of the slave axis, said correction angle being determined as follows: $\varphi_{corr} = \omega_L * (T_T + T_R)$, wherein φ_{corr} is the position correction value, namely a correction angle, ω_L is the speed of the guide axis, namely an angular velocity, T_T is the data propagation time, and T_R is the delay.

6. The setpoint correction method according to claim 4 or 5, further comprising determining the angular velocity of the guide axis by differentiating guide axis angles.

7. The setpoint correction method according to claims 1 and 2, further comprising using a busy system to enable the guide axis and the slave axis to communicate, and wherein the data propagation time represents the transmission time of the position measured values of the guide axis via a data bus.

8. A control system for generating and correcting setpoints for driving a slave axis which, in accordance with a predefined functional relationship follows a guide movement of a higher-order guide axis comprising a register for registering position measured values of the guide axis, said register generating and applying position correction values to position measured values wherein the position correction values are determined proportionally to the guide axis's speed, said speed being assumed to be substantially constant during a data propagation time of the position measured value of the guide axis and/or a delay of a position control system of the slave axis.

9. The control system according to claim 8, wherein position correction values are determined so as to compensate for a lag error of the slave axis.

10. The control system according to claim 8, wherein the register is a rotary encoder which supplies guide axis angles.

11. The control system according to claim 10, wherein registered guide axis angles can be increased by correction angles which are proportional to the guide axis's angular velocity and weighted with the data propagation time of the position measured value of the guide axis, said correction angles to be determined as follows: $\varphi_{corr} = \omega_L * T_T$.

12. The control system according to claim 10, wherein registered guide axis angles can be increased by correction angles which are proportional to $_L$) of the guide axis's velocity and weighted with the delay of the position control system of the slave axis, it being possible for said correction angles to be determined as follows: $\varphi_{corr} = \omega_L * T_R$.

13. The control system according to claim 8, further differentiating the guide axis angles and wherein an angular velocity of the guide axis can be derived.

14. The control system according to claim 8, further comprising a bus system by which the guide axis and the slave axis communicate, and wherein the data propagation time represents the transmission time of the position measured values of the guide axis via a data bus.